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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,755	03/10/2004	Takaaki Onishi	04163/LH	6432

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EXAMINER

CABRERA, ZOILA E

ART UNIT PAPER NUMBER

2125

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/798,755

Applicant(s)

ONISHI ET AL.

Examiner

Zoila E. Cabrera

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7, 9 and 10 is/are rejected.
- 7) ☒ Claim(s) 4, 8, 11 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/10/04; 7/12/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-7 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fukuda et al. (US 6,463,350 B2)** in view of **Yanaru et al. (US 6,788,990 B1)**.

Regarding claim 1, **Fukuda** discloses a lump (or group) management apparatus (Fig. 1) comprising:

- a plurality of inspection/manufacturing apparatuses arranged in a semiconductor production line (Fig. 1, elements 1);  
sensor units for acquiring maintenance information concerning maintenance target items of the respective inspection/manufacturing apparatuses (Col. 4, lines 6-8, i.e. in maintenance; Figs. 2 and 8, i.e., MAINTENANCE);  
inspection/manufacturing apparatus computers each of which is connected with each of or a groups of the inspection/manufacturing apparatuses (Fig. 1, elements 4) and includes a function to control operations of the respective inspection/manufacturing apparatuses in accordance with operation conditions corresponding to the respective inspection/manufacturing apparatuses (Col. 6, lines 9-12 and lines 19-25);

and a management computer which is connected with the respective inspection/manufacturing apparatus computers through a communication line (Fig. 1, element 5; Col. 3, lines 55-57), and includes:

a transmission/reception function to transmit/receive each information item of the operation conditions set to the respective inspection/manufacturing apparatuses (Col. 3, lines 35-36; Col. 4, lines 56-57) or the maintenance information from each sensor unit of the inspection/manufacturing apparatuses to/from the respective inspection/manufacturing apparatus computers (col. 4, lines 6-16; Fig. 2, i.e., MAINTENANCE);

a notification function to intensively manage the maintenance information from each sensor unit of each inspection/manufacturing apparatus in a lump (Fig. 2, i.e., OUT OF ORDER; Col. 4, lines 20-25, lines 46-47 and lines 51-63, please note that the operating state of all of the productions apparatuses is displayed), monitor an abnormality of the respective inspection/manufacturing apparatuses based on the maintenance information in order to predict the abnormality, and notify a warning at the time of occurrence of the abnormality (Col. 6, lines 53-57); and a display function to display each information item of the operation conditions of the respective inspection/manufacturing apparatuses (Col. 4, lines 20-25; Figs 2 and 8) or each maintenance information item and an arrangement layout drawing of the respective inspection/manufacturing apparatuses on the same screen of a monitor device (Figs. 2 and 8; Col. 7, lines 4-6 and 37-39).

Art Unit: 2125

As for claims 5-7, **Fukuda** discloses,

- the management computer further includes as the display function a function to visually display and output the arrangement layout drawing in the monitor device, and display each specified inspection/manufacturing apparatus and the other inspection/manufacturing apparatuses which are not specified in different conformations in the arrangement layout drawing (Fig. 2, row D4 corresponds to each apparatus which have different conformations as shown in row D3 and D5);
- the management computer further includes as the display function a function to visually display and output the arrangement layout drawing in the monitor device, and display each inspection/manufacturing apparatus as a maintenance target so as to be different from the other inspection/manufacturing apparatuses in the arrangement layout drawing (Fig. 2, Apparatus AB16 MAINTENANCE);
- the management computer further includes as the display function a function to visually display and output the arrangement layout drawing in the monitor device, and extract and display the maintenance information of a corresponding inspection/manufacturing apparatus by specifying the visually displayed desired inspection/manufacturing apparatus (Fig. 2, Apparatus AB16 MAINTENANCE).

As for claim 10, **Fukuda** discloses,

- the management computer further includes as the notification function a function to notify a portable terminal of an operator or a management terminal of a maintenance management department established in another area of an

abnormality of each of the inspection/manufacturing apparatuses (Col. 6, lines 53-57; Figs. 2 and 8).

**Fukuda** discloses the limitations of claim 1 above but fails to disclose some limitations of claim 1 and the limitations of claims 2-3 and 9. However, **Yanaru** discloses such limitations as follows:

As for claim 1, **Yanaru** discloses

a change function to intensively manage the operation conditions set to the respective inspection/manufacturing apparatus computers in a lump (Col. 3, lines 40-45; Col. 4, lines 23-33; Fig. 5, steps 33-36) and change the operation conditions in a lump with respect to the inspection/manufacturing computer of the specified each inspection/manufacturing apparatus (Col. 3, lines 40-45; fig 5, step 36).

As for claims 2-3 and 9, **Yanaru** further discloses,

- each of the inspection/manufacturing apparatuses has at least one inspection function of a pattern inspection, a line width inspection, an auto macro inspection and a micro inspection (Fig. 1, please note that in a photolithography process a pattern inspection takes place).
- the inspection/manufacturing apparatus computer further sets at least one substrate information item of a size of a substrate which becomes a target of inspection/manufacture, a reference position, a cell size, and surface acquisition conditions as the operation conditions (Fig. 1, Photolithographic Processing,

please note that in an inspection process in photolithography the size of a substrate, a reference position, a cell size and surface acquisition conditions are parameters needed to properly inspect the substrate).

- the management computer further includes a sort/select function to classify/rearrange the operation conditions set to the inspection/manufacturing apparatuses in accordance with each apparatus, each apparatus category, or each apparatus group, and collectively rewrites the operation conditions of an inspection/manufacturing apparatus classified by using the sort/select function as the change function (Fig. 5, steps 33-36; Col. 3, lines 40-45).

Therefore, it would have been obvious to a person of the ordinary skill in the art at the time the invention was made to combine the production system for manufacturing semiconductor devices of **Fukuda** with the process control system of **Yanaru** because it would allow to change operating conditions in a group of devices and thereby improve the production efficiency in a semiconductor plant (**Yanaru**, Col. 3, lines 63-67).

#### ***Allowable Subject Matter***

2. Claims 4, 8, 11-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

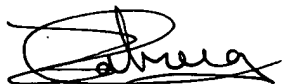
Art Unit: 2125

***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning communication or earlier communication from the examiner should be directed to Zoila Cabrera, whose telephone number is (571) 272-3738. The examiner can normally be reached on M-F from 8:00 a.m. to 5:30 p.m. EST (every other Friday).

If attempts to reach the examiner by phone fail, the examiner's supervisor, Leo Picard, can be reached on (571) 272-3749. Additionally, the fax phones for Art Unit 2125 are (703) 872-9306. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist at (703) 305-9600.



Zoila Cabrera  
Patent Examiner  
2/18/05